

NAPL are present, or high levels of VOCs are detected using a field photoionization detector/~~flame ionization detector~~ (PID/~~FID~~), temporary wells will be installed to evaluate whether potentially recoverable NAPL, capable of flowing freely to a well, is present. If potentially recoverable NAPL is encountered, additional geoprobe holes will be pushed on an approximately twenty foot spacing to further define the extent of the contamination. It is estimated that two additional geoprobe holes will be needed; however, the actual number is dependent on the site conditions encountered and could be higher or lower. Additional geoprobe holes may also be added within the limits of the process waste tanks excavation.

Both subsurface soil samples and liquid samples will be collected as possible. Subsurface soil samples will be collected using Geoprobe push-type hydraulic equipment. Table 2 lists the projected number of samples to be collected, analyses, and sampling requirements. Sample containers will be provided by the Analytical Projects Office (APO).

Table 2. Analytical Sampling Requirements

Analysis Method	Number of Samples	Number of QC Samples	Total Number Samples	Containers, Preservatives, Holding Times
<u>Soils</u> SW846 Method 8260A	<u>75</u> <del>450</del>	<u>4</u> & duplicate		120 ml wide mouth, Teflon lined, glass jar, 40 C, 14 days
Alpha Spectroscopy for Uranium 233/234, 234 & 238, Plutonium 239/240 and Americium 241	10	1 duplicate	<u>90</u> <del>460</del>	250 ml glass jar, NA, 6 months
<u>Free Product/Groundwater</u> SW846 Method 8260A	10	1 duplicate 1 rinsate 5 trip blanks (1 per shipment)	17	Three 40 ml Teflon lined VOA vials per sample with septum lids, HCl* to pH < 2 and 40 C, 14 days

Note - For safety reasons, if there is any reason to believe the sample contains NAPL, acid will not be put into the sample jars, and contact between the sample and any form of acid will be avoided.

Core samples will be recovered continuously in two to five-foot increments and evaluated by a geologist familiar with the local stratigraphy. The geologist will determine the depth to bedrock. The geoprobe locations will be surveyed using Global Positioning System (GPS) equipment or other appropriate survey equipment so that data can be properly plotted.

location. These locations will be surveyed for location and elevation using GPS receivers operated in accordance with the equipment manuals (Ashtech 1993), or other appropriate survey equipment.

### 3.2 Geoprobe Samples

All geoprobe boreholes will be advanced to a depth of two feet into weathered bedrock, or to a sufficient depth to confirm unweathered bedrock, a total depth expected not to exceed 30 feet. If refusal occurs prior to reaching bedrock, up to two offsets will be pushed to try and reach the sampling objectives. Geoprobe operations will be conducted as per GT.39 Push Subsurface Soil Sample.

CSE  
9/17/97 Core samples will be collected continuously in two to five foot increments in tube liners from the surface to approximately two feet into bedrock. These core samples will be monitored with a field instrument for the detection of low energy radiation (FIDLER), and in accordance with FO.15 Photoionization Detectors and Flame Ionization Detectors, visually inspected for signs of NAPL or other contaminant staining, and then visually logged by the field geologist per GT.01 Logging Alluvial and Bedrock Material. The depth and thickness of stained or saturated core will be described in detail; however, portions of Procedure GT.01 will not be used, e.g., sieving samples, investigation with a binocular microscope, and field estimates of plasticity.

CSE  
9/17/97 Soil samples will be collected for analyses as described in Table 2 from every geoprobe hole to determine whether VOC source material is present in the subsurface soils. Samples will be collected for laboratory analysis of VOCs from every four foot section ~~two foot interval~~, and will be collected where there are indications of contaminants in the section, or from the base of the section ~~interval~~. If more than one discrete interval within a four-foot ~~two-foot~~ section shows sign of NAPL, then a an additional sample will be taken from each interval. A radiological sample will be collected along with the first VOC sample which has indications of NAPL, or from the first interval of core collected at each location.

### 3.3 NAPL and Groundwater Samples

ALP  
9-11-97 If ~~PID~~ ~~PID/FID~~ readings, visible staining of the core, or the presence of NAPL on downhole tools indicate that NAPL is present, temporary wells will be installed. After the geoprobe holes are completed to the required depth, 1/2" to 3/4" internal diameter, Number 10 slotted, stainless steel